



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

July 14, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8100479, issued to EXCO RESOURCES (PA), LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.


James Martin
Chief

Operator's Well No: A-16
Farm Name: BEAVER COAL CO.
API Well Number: 47-8100479
Permit Type: Plugging
Date Issued: 07/14/2016

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. This well is under a consent order and must be plugged under the terms of that agreement.

STATE OF WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION OFFICE OF OIL
AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil / Gas X / Liquid injection / Waste disposal /
(If "Gas, Production X or Underground storage) Deep / Shallow

5) Location: Elevation 2277 Watershed White stick creek
District Town County Releigh Quadrangle Beckley 7.5

6) Well Operator EXCO Resources (PA), LLC 7) Designated Agent Diana Stampler/C.T.Corp.
Address PO Box 8. Address 5400 D Big Tyler Road
Ravenswood, WV 26164 Charleston, WV 25301

Oil and Gas Inspector to be notified
Name GARY KENNEDY
Address PO Box 268, Nimitz, WV 25978
PHONE 304 382 8402

9) Plugging Contractor
Name R & R WELL SERVICE
Address 42 LYNCH RIDGE
WALTON, WV 25286

10) Work Order: The work order for the manner of plugging this well is as follows:

Check for Rock Pressure

Remove all equipment used to produce well,

Gel hole

2 7/8 1369 feet cemented 50 sks may have to cement through 2 7/8

Cement 1310 to 1275

Cut and pull 27/8 casing at 635 cemented with 50 sks

Free Point

*FREE POINT MAY BE \approx 1000'
IF SO, PLACE 100' CIA PLUG
ACROSS CUT.*

+/- 650' cement 650' to 530 coal and 7" bottom covered

RECEIVED
Office of Oil and Gas

Cement 100 to surface'

JUN 06 2016

Set monument with API

Gel between all plugs

WV Department of
Environmental Protection

SIGNATURE *Russell D. [Signature]*

DATE- 5/24/16

[Signature]

State Fleet

FORM NO. 1
(Observer)

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

Date: December 12, 1979
Operator's Well No. Beaver Coal Co. A-16

WELL OPERATOR'S REPORT

Drilling, fracturing and/or stimulating or physical change
State County Permit

Well type: Oil
Location: 2275 (KB) Watershed: Whitestick Creek
District: Rain Town: Rain County: Rain Quadrangle: Beckley (7.5' Series)

Well Operator: Appalachian Exploration & Dev. Inc. Designated Agent: James R. Gramblett
Address: P.O. Box 628 Address: P.O. Box 628
Charleston, West Virginia 25322 Charleston, West Virginia 25322

Permitted work: Drill Convert Drill deeper or stimulate
Plug off old formation Perforate new formation

DEC 14 1979

Permit issued on: April 30, 1979
Oil & Gas Division

(If applicable) Plugging of dry hole, or continuous progression from drilling or reworking, verbal permission obtained
Name: Mr. Leroy Hopkins
Address: General Delivery
Ansted, West Virginia

Geological target formation: Bevancliff Depth: 1264'-1322' feet
Depth of completed well: 1390' feet
Water strata depth: 40' feet
Coal seam depths: 585', 592'
Work was commenced: June 15, 1979, and completed: June 24, 1979

Casing or Tubing Type	Size	Grade	Specifications		Footage Intervals		Cement Fill-up or Sacks (Cubic feet)	Packers
			Weight per ft	New Used	For drilling	Left in well		
Conductor	13-3/8"				10'	10'		Kinds
Fresh water	9-5/8"				67'	67'	50 sks	
Coal	7"				644'	644'	100 sks	Sizes
Intermediate								
Production	2-7/8"				1369'	1369'	50 sks	Dents set
Tubing								
Liners								Perforations:
								Top Bottom
								1275' 1281'
								1285' 1290'
								1295' 1299'
								1301' 1310'

Open Flow Data
Producing formation: Bevancliff Pay zone depth: 1275'-1310'

Initial open flow: 210' Bbl/d
Final open flow: 327' Bbl/d

Second producing formation: Bevancliff Pay zone depth: 1275'-1310'

Initial open flow: 210' Bbl/d
Final open flow: 327' Bbl/d

Office of Oil and Gas
Department of Environmental Protection
JAN 0.6 2016

[Handwritten signature]

8100479 P

FORM IV-35
(Reverse)

[08-78]

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

8/31/79 - Broke down Ravencliff at 1000#. Balled out with 1000 gals. 15% HCL to 2600#. Treated with 30,000# 80/100; 60,000# 20/40 (each 4#/gal.). Total fluid 800 bbls. (655 bbls. S/L). Average treating pressure 2550#. Average injection rate 19.5 BPM. ISIP 1400#; 15 minutes, 1000#; 1 hour, 30#.

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Surface Rock			0	8	
Sandy Shale			8	28	
Shale			28	94	
Sand			94	156	
Shale			156	196	
Sand			196	258	
Silty Shale			258	329	
Shale			329	369	
Sand			369	496	
Silty Shale			496	537	
Sand			537	584	
Coal			584	588	
Shale			588	592	
Coal			592	595	
Silty Sand			595	686	
Shale			686	744	
Silty Sand			744	800	
Sand			800	848	
Shale			848	1043	
Princeton Sand			1043	1100	
Shale			1100	1264	
Ravencliff Sand			1264	1322	
Shale			1322	1346	
Avis Lime			1346	T.D.	

D.T.D. 1390'
L.T.D. 1382'

(Attach separate sheets to complete as necessary)

APPALACHIAN EXPLORATION & DEVELOPMENT, INC.
Well Operator

By James R. Cramblett
Regional Manager, Drilling and Production

NOTE: Regulation 2.02(f) provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the drilling of a well."

RECEIVED
Division of Oil and Gas

8100479A

FORM IV-2
(Obverse)
[08-78]

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

Date: April 30, 1979

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. Beaver Coal A-16
API Well No. 081-0479

WELL TYPE: Oil Gas

(If "Gas", Production Underground storage Deep Shallow

LOCATION: Elevation: 2277'

Watershed: Whitestick Creek

District: Town

County: Raleigh

Quadrangle: Beckley 7.5'

WELL OPERATOR Appalachian Exploration & Development, Inc.

Address P. O. Box 628
Charleston, WV 25322

DESIGNATED AGENT R. P. Parsons
Address P. O. Box 628
Charleston, WV 25322

ROYALTY OWNER Beaver Coal Co., Ltd.
Attn: Mr. Tom Howard
Box 1537
Beckley, WV 25801

Address Beckley, WV 25801

Acres 17638.38

COAL OPERATOR Piney Creek Coal Company
Attn: Mr. George Marshall, V.P.
Box 1325, Beckley, WV 25801
w/copy to Mr. James Baylor, Pres.
Box 26765, Richmond, VA 23261

Address Beckley, WV 25801

SURFACE OWNER B.E. Carter and G.C. Hedrick
c/o G.C. Hedrick Estate
Raleigh County Bank Building
Beckley, WV 25801

Address Beckley, WV 25801

Acres 17638.38

COAL OWNER(S) XXXXXXXXXXXXXXXXXXXXXXXX
Name Same as Oil & Gas Royalty Owner
Address _____
Name _____
Address _____

FIELD SALE (IF MADE) TO:
Name _____
Address _____

Name _____
Address _____

COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Leroy Hopkins
Address _____
Tel: 658-4280

APR 30 1979

OIL & GAS DIVISION
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas pursuant to the _____
location under a deed lease other contract _____ dated April 1, 1971.
undersigned well operator from Beaver Coal Company, Ltd.

[If said deed, lease, or other contract has been recorded:]
Recorded on May 26, 1971, in the office of the Clerk of the County Commission of Raleigh
County, West Virginia, in Deed Book 36 at page 11. A permit is requested on following

PROPOSED WORK: Drill Drill deeper Redrill Fracture or stimulate
Plug off old formation Perforate new formation
Other physical change in well (specify) _____

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any
objection they wish to make or are required to make by Code 5-22-4-1 must be filed with the Department
of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and declaration plan have been mailed
by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee
on or before the day of the mailing/delivery of this Permit Application to the Department of Mines at
Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
1614 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

NET BOND

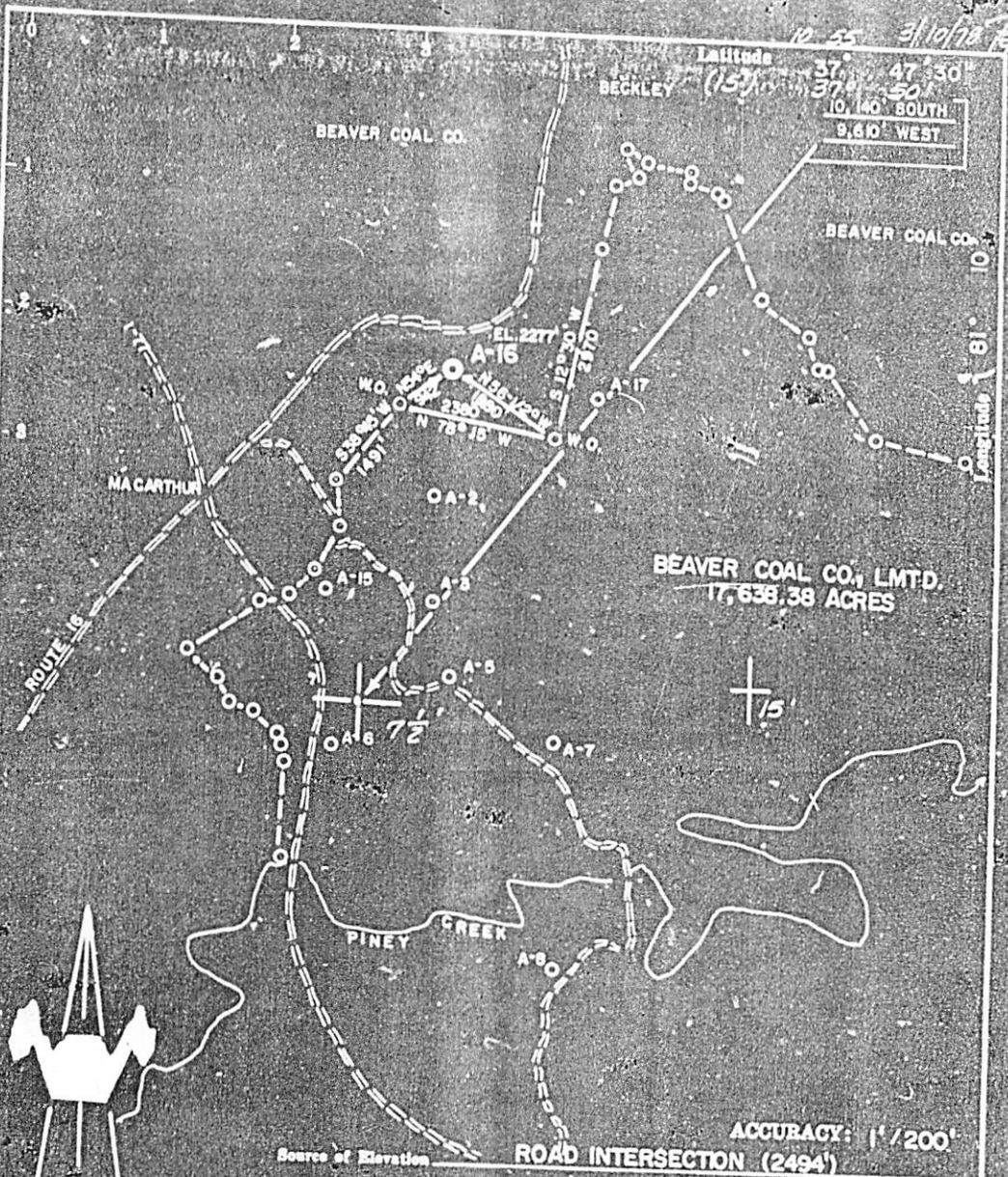
Appalachian Exploration & Development, Inc.
Well Operator

By R.P. Parsons
District Production Superintendent

WV Department of
Environmental Protection

[Handwritten signature]

07/15/2016



- New Location
- Drill Deeper
- Abandonment
- Fracture
- Redrill

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Company **APPALACHIAN EXPL. & DEV. INC.**
 Address **CHARLESTON, WV**
 Farm **B & CARTER & C. HEDRICK BEAVER COAL CO., LMTD.**
 Tract _____ Acres **17,638.38** Lease No. _____
 Well (Farm) No. **A-16** Serial No. _____
 Elevation (Spirit Level) **2277'**
 Quadrangle **BECKLEY (7.5' SERIES), 15'**
 County **RALEIGH** District **TOWN**
 Engineer **CHET WATERMAN**
 Engineer's Registration No. **3788**
 File No. **77003-92** Drawing No. _____
 Date **3/31/77** Scale **1" = 2000'**

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. **47-081-0479**
 FORMERLY **204-400**

+ Denotes location of well on United States Topographic Maps, scale 1 to 25,000, latitude and longitude lines being represented by dashed lines as shown.
 — Denotes one inch spacing on border line of original tracing.

47-081

14351 Ravenscliff

RECLAMATION PLAN

QUADRANGLE Beckley (7.5' Series)

WELL NO. A-16

SCALE 1" = 500'

Locate and show (1) Well Location (2) Access Road (3) Well Site (4) Drilling Pit and (5) Necessary Drainage Features.



COMPANY NAME Appalachian Exploration & Development, Inc.

FARM Beaver Coal Co., Ltd.

DISTRICT Town

PERMIT NO. RA-440
17-081-0449
COUNTY Raleigh

STATEMENT OF RECLAMATION PLAN:

Location is in open field and is situated along side public roadway. No access road is required to enter location. Pit will be on location and will be lined. Location will be reclaimed; pit filled and location reseeded.

Not to scale; drawing of all roads, locations, ditches, drains, pits, silt traps, etc.

RECEIVED

MAR 10 1978

OIL & GAS DIVISION
DEPT. OF MINES

This plan was observed and agreed upon between the well operator, contractor, and the district oil and gas inspector.

Please indicate () "YES" if the district inspector was present.

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Submitted By: Richard P. Parsons Title Richard P. Parsons, Date March 8, 1978
District Superintendent.

RECEIVED
Oil and Gas

WW-4A
Revised 6-07

1) Date: 5/1/2016
2) Operator's Well Number
Beaver Coal A16
3) API Well No.: 47 - 081-0479

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Beaver Coal Co.</u>	Name <u>Beaver Coal Co.</u>
Address <u>115 1/2 Kanawha ST. Beckley WV 25801</u>	Address <u>115 1/2 Kanawha ST., Beckley Wv 25801</u>
(b) Name	(b) Coal Owner(s) with Declaration
Address	Name
	Address
(c) Name	Address
Address	
6) Inspector Gary Kennedy	(c) Coal Lessee with Declaration
Address P.O. Box 268	Name
Nimitz, WV 25978	Address
Telephone Ph. (304) 382 8402	

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

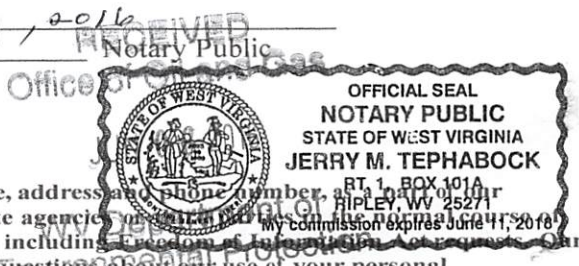
Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief

Well Operator EXCO RESOURCES (PA), LLC
 By: Randall Sheets
 Its: Supervisor
 Address P O BOX 8
RAVENSWOOD, WV 26164
 Telephone 304-273-5371

Subscribed and sworn before me this 24th day of May, 2016

My Commission Expires June 18, 2018
Oil and Gas Privacy Notice

Jerry Tephabock



The Office of Oil and Gas processes your personal information, such as name, address and phone number, as part of its regulatory duties. Your personal information may be disclosed to other State agencies, including the Department of Environmental Protection, for business or as needed to comply with statutory or regulatory requirements, including the Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name _____ OP Code _____

Watershed (HUC 10) _____ Quadrangle _____

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes _____ No _____

Will a pit be used? Yes _____ No _____

If so, please describe anticipated pit waste: _____

Will a synthetic liner be used in the pit? Yes _____ No _____ If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

- _____ Land Application
- _____ Underground Injection (UIC Permit Number _____)
- _____ Reuse (at API Number _____)
- _____ Off Site Disposal (Supply form WW-9 for disposal location)
- X Other (Explain NO FLUIDS EXPECTED ON RETURN *gdk*)

Will closed loop system be used? If so, describe: _____

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. _____

-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? _____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. _____

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? _____

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Randall D Sheets*

Company Official (Typed Name) RANDALL SHEETS

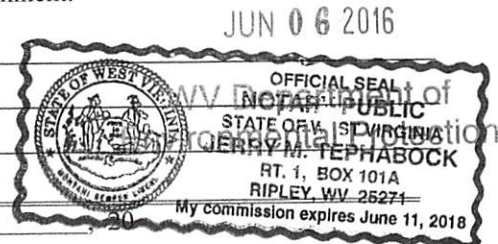
Company Official Title Supervisor

Subscribed and sworn before me this 24th day of MAY 2016

Jeanne Tephabock

Notary Public

My commission expires June 11, 2018



Form WW-9

Operator's Well No. Beaver Coal . A16 _____

Proposed Revegetation Treatment: Acres Disturbe 0.5 Prevegetation pH 6.0

Lime 2 Tons per Acre of correct to 6.5
Fertilizer (10-20-20 or equivalent) _____ 500lbs/acre (500 lbs minimum)

Mulch _____ 2 Tons/acre

Seed Mixtures

Seed Type	Area I		Seed Type	Area II	
	lbs/acre			lbs/acre	
KENTUCKY FESCUE	40		SAME AS #1		
ALSIKE CLOVER	5				
ANNUAL RYE	16				

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

RECEIVED
Office of Oil and Gas

Title: Inspector

Date: JUN 06 2016

Field Reviewed? () Yes () No

5/25/16
WV Department of
Environmental Protection



8100479
482356.8E, 4179624.2N, UTM17 NAD83

07/15/2016

8100479f

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47 081 00479 WELL NO.: Beaver Coal A16
FARM NAME: Beaver Coal, LMTD
RESPONSIBLE PARTY NAME: EXCO Resources (Pa), LLC
COUNTY: Releigh DISTRICT: Beckley(Town)
QUADRANGLE: Beckley 7.5
SURFACE OWNER: Beaver Coal
ROYALTY OWNER: Beaver Coal
UTM GPS NORTHING: 4179624.2
UTM GPS EASTING: 482356.8 GPS ELEVATION: 2412

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:
Survey grade GPS ____: Post Processed Differential ____
Real-Time Differential ____
Mapping Grade GPS X: Post Processed Differential ____
Real-Time Differential ____
- Letter size copy of the topography map showing the well location.**

RECEIVED
Office of Oil and Gas
JUL 05 2016

WV Department of
Environmental Protection

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Signature Randal Greig Supervisor
Title

6/29/16
Date

07/15/2016